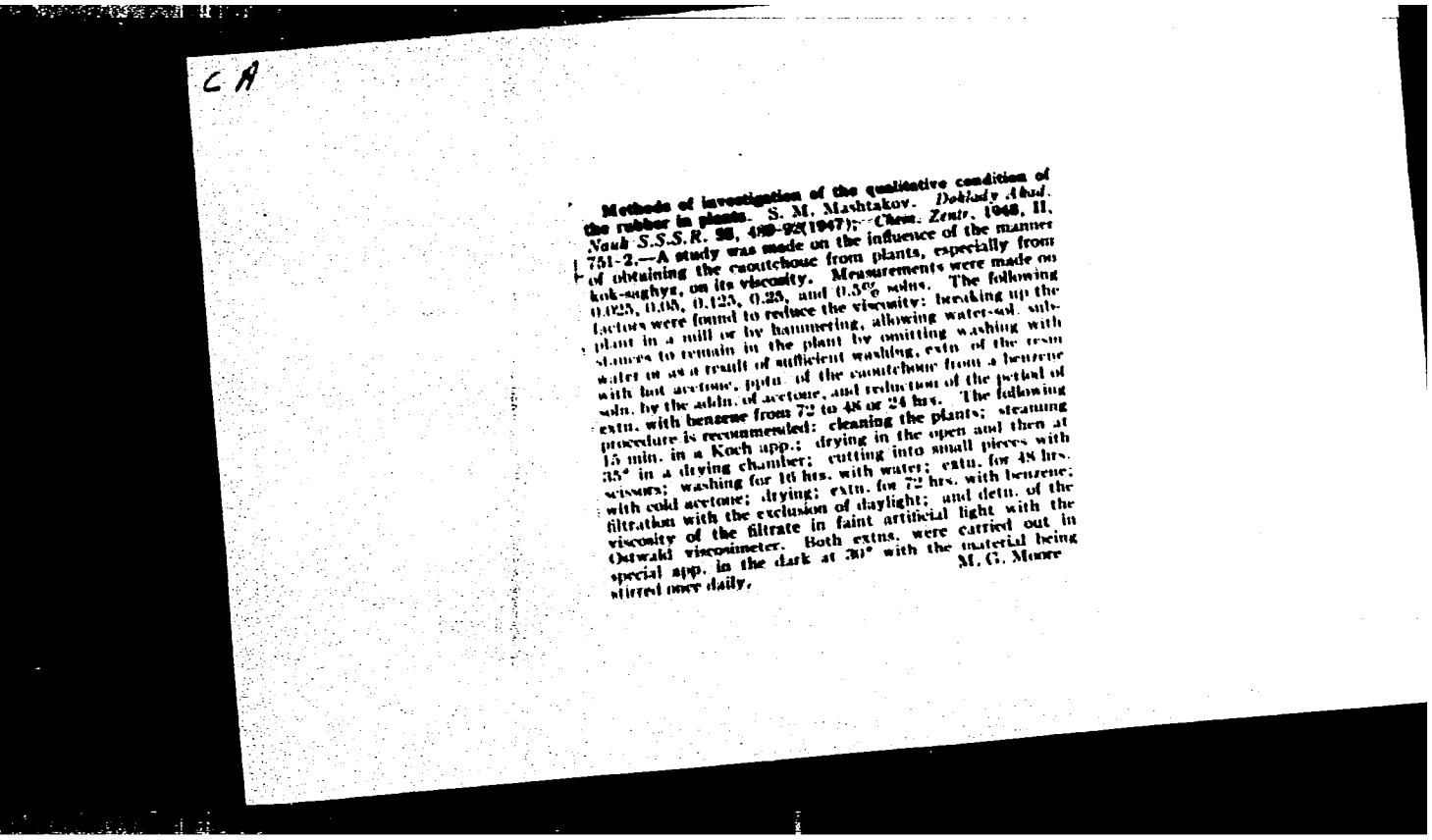
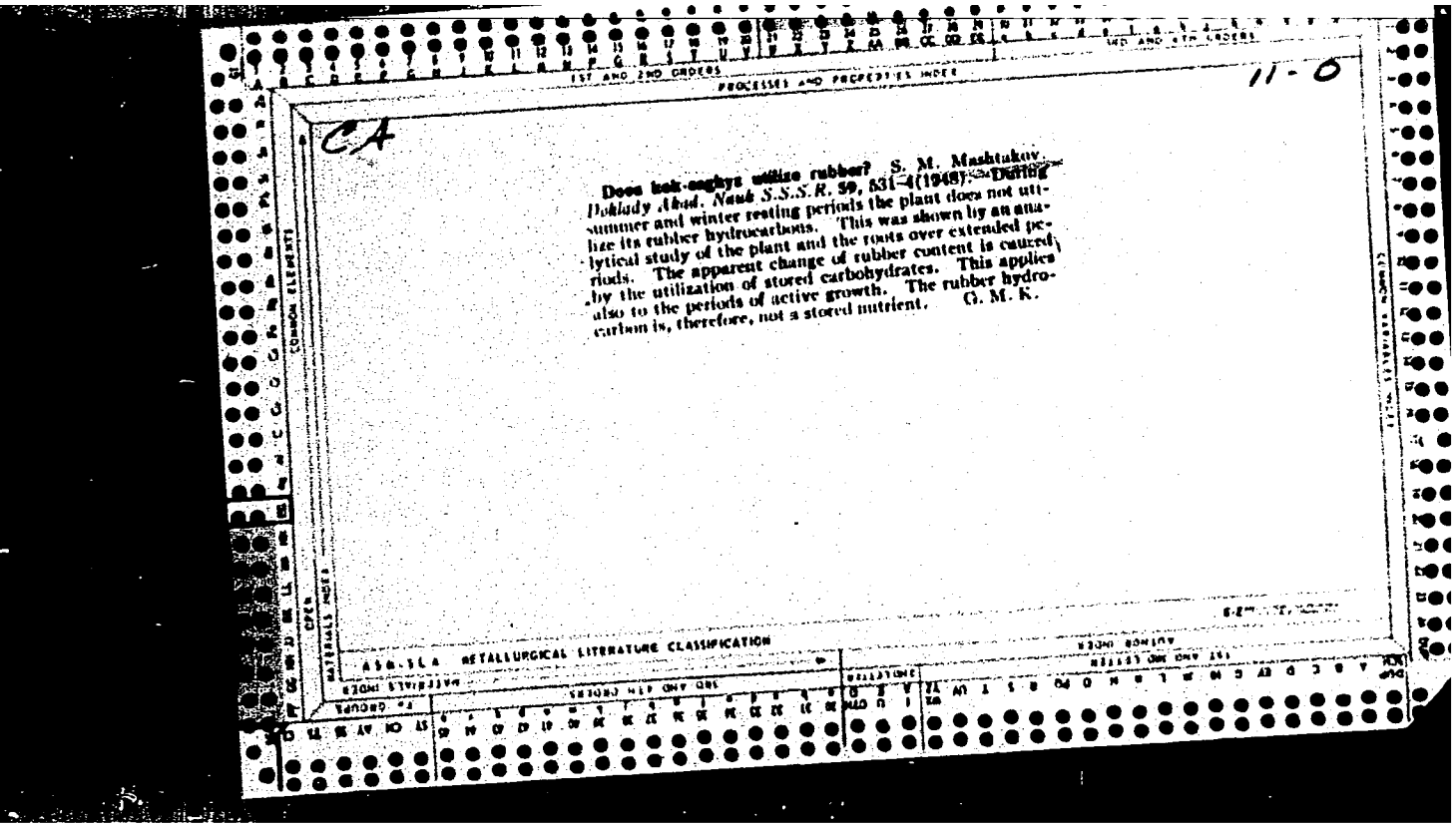


CA

Methods of investigation of the qualitative condition of the rubber in plants. S. M. Mashtakov. *Doklady Akad. Nauk S.S.S.R.* 58, 489-92(1947); *Chem. Zentr.* 1948, II, 751-2.—A study was made on the influence of the manner of obtaining the caoutchouc from plants, especially from kok-saghyz, on its viscosity. Measurements were made on 0.025, 0.05, 0.125, 0.25, and 0.5% solns. The following factors were found to reduce the viscosity: breaking up the plant in a mill or by hammering, allowing water-sol. substances to remain in the plant by omitting washing with water as a result of sufficient washing, extn. of the resin with hot acetone, ppta. of the caoutchouc from a benzene soln. by the addn. of acetone, and reduction of the period of extn. with benzene from 72 to 48 or 24 hrs. The following procedure is recommended: cleaning the plants; steaming 15 min. in a Koch app.; drying in the open and then at 35° in a drying chamber; cutting into small pieces with scissors; washing for 16 hrs. with water; extn. for 48 hrs. with cold acetone; drying; extn. for 72 hrs. with benzene; filtration with the exclusion of daylight; and detn. of the viscosity of the filtrate in faint artificial light with the Ostwald viscosimeter. Both extns. were carried out in special app. in the dark at 30° with the material being stirred once daily.

M. G. Moore



CA

11-0

Does tek-saghyz utilize rubber? S. M. Mashtakov. *Doklady Akad. Nauk S.S.S.R.* 59, 531–4(1948). (Russ.) During summer and winter resting periods the plant does not utilize its rubber hydrocarbons. This was shown by an analytical study of the plant and the roots over extended periods. The apparent change of rubber content is caused by the utilization of stored carbohydrates. This applies also to the periods of active growth. The rubber hydrocarbon is, therefore, not a stored nutrient. G. M. K.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

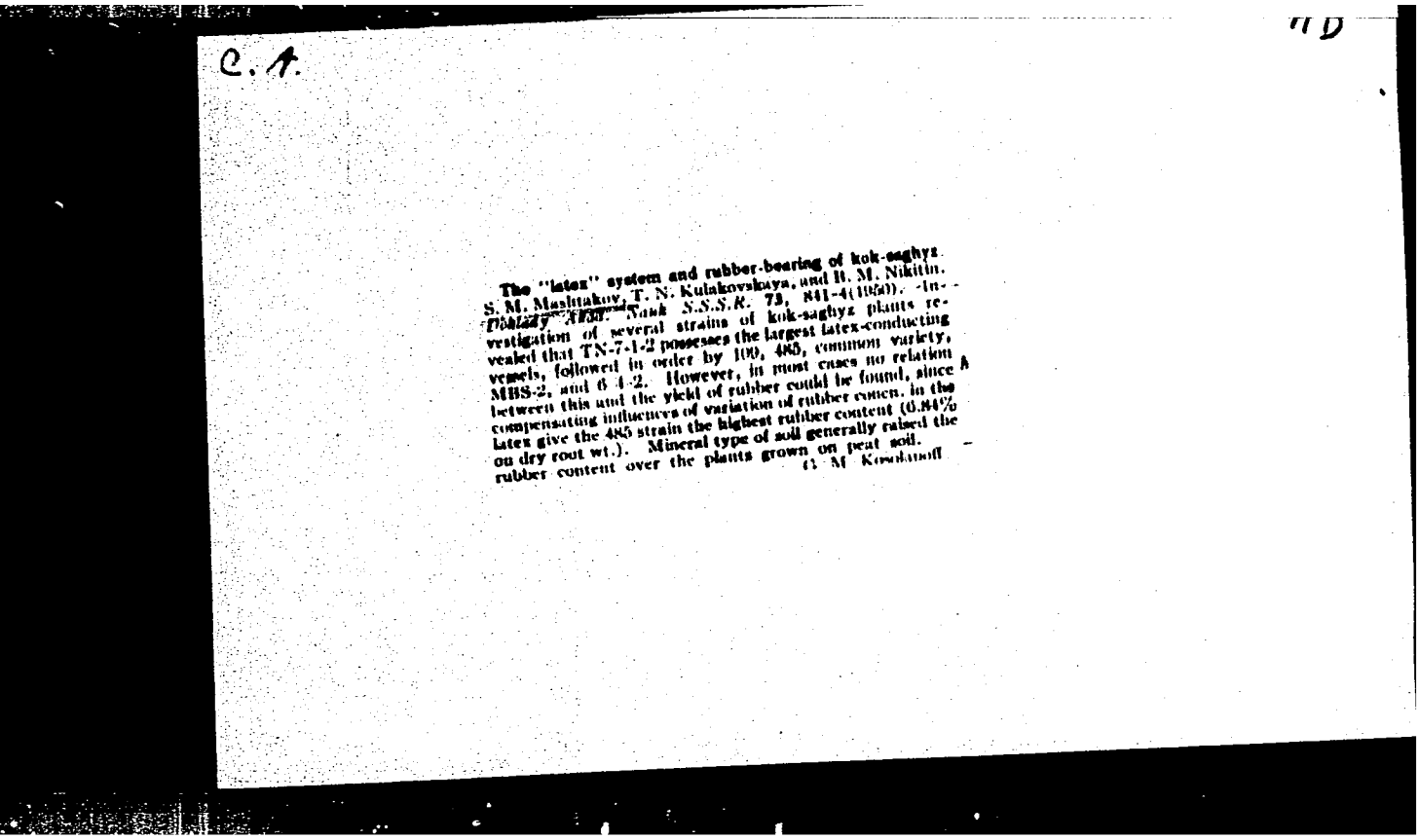
30

Effect of mold fungi on the chemical composition of bok-saghyz roots during their transportation and storage. G. M. Kosolapov. *Inst. Abad. Nauk Belorussk. S.S.S.R.* 1940, No. 2, 55-67.—The presence of mold fungi on bok-saghyz roots leads to rapid destruction of the rubber and of carbohydrates. However, the quality of the residual rubber latex is unaffected. G. M. Kosolapoff

MASHTAKOV, S. M.

22566.—MASHTAKOV, S. M. Vliyaniye solnechnoi i tenevoi sushki kornei kok-sagyza na kachestvo uglevodoroda. izvestiya akad. nauk bssr, 1949, No 3, S. 117-28.- Bibliogr: 23 Nazv.

SO: LETOPIS' No. 30, 1949



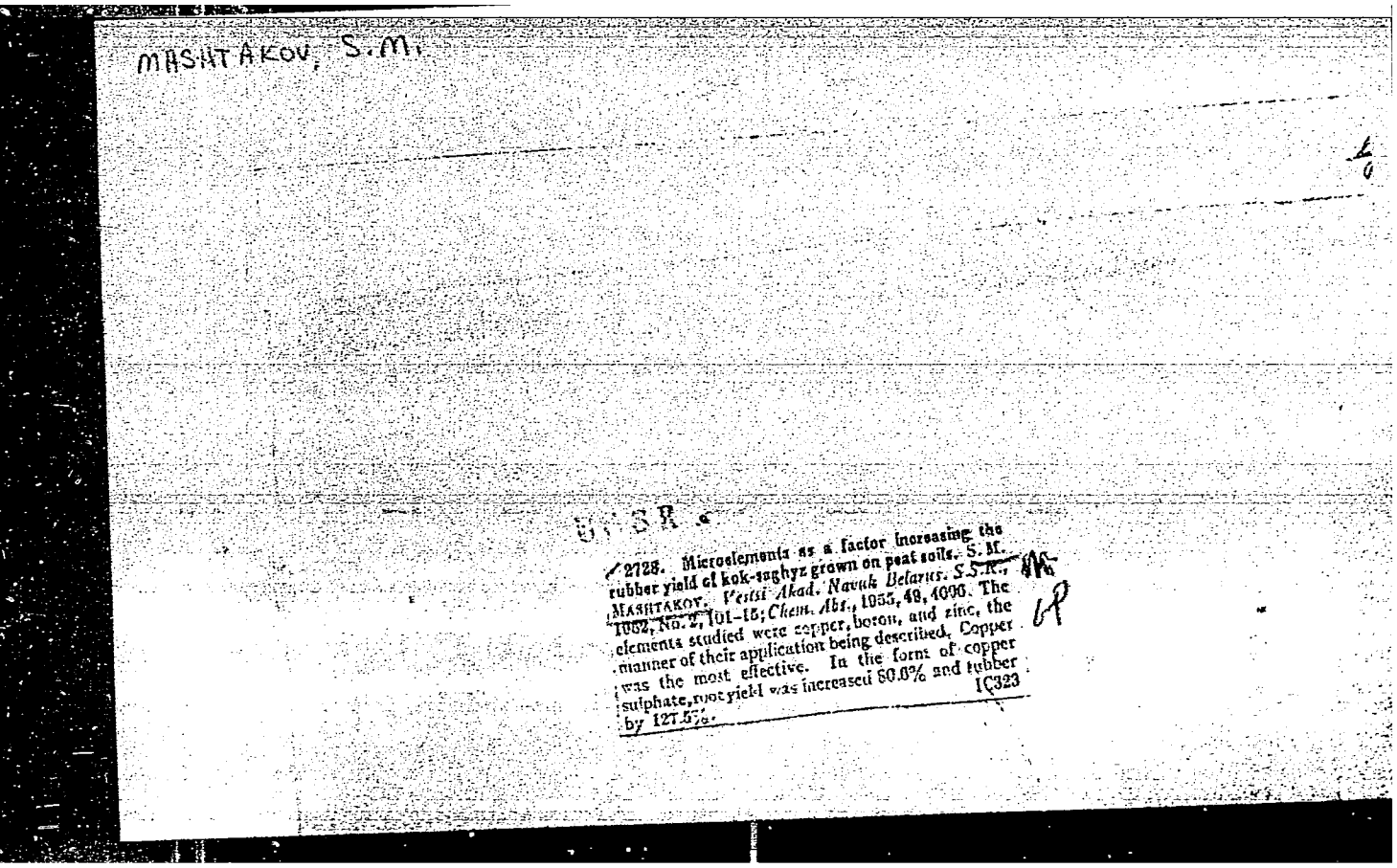
Q. A.

The "latex" system and rubber-bearing of kok-saghyz. S. M. Maslitskov, T. N. Kulakovskaya, and N. M. Nikitin. Doklady Akad. Nauk S.S.S.R. 73, 841-4(1950). In- vestigation of several strains of kok-saghyz plants re- vealed that TN-7-1-2 possesses the largest latex-conducting vessels, followed in order by 100, 485, common variety, MBS-2, and 6-4-2. However, in most cases no relation between this and the yield of rubber could be found, since A compensating influences of variation of rubber content in the latex give the 485 strain the highest rubber content (0.84% on dry root wt.). Mineral type of soil generally raised the rubber content over the plants grown on peat soil. G. M. Kondratieff

C.A.

1. D

Copper, manganese, and iron in kok-saghyz plants. S. M. Mashtakov and S. M. Gol'dina. *Doklady Akad. Nauk S.S.S.R.* 79, 1077–80(1950).—Introduction of $CuSO_4$ or pyrites into the soil (up to 100 kg. $CuSO_4$ per hectare) did not repress growth nor did it improve the yield. The plant content of Cu and Fe is almost unaffected by such addns. However, the level of Mn rises to 250% of normal, mostly in H_2O-insol. form, while most of Cu is in H_2O-sol. state in the plant. Fe is rather tightly bound and only traces are H_2O-sol. The rubber is almost free of the micro-elements, while they are largely concd. in the fluid portion of the latex juice. Rubber prepd. from the roots in a ball mill contains 50 times as much Fe as Cu, and Mn is intermediate (about 0.0001%). The Cu level in the rubber may be decreased or eliminated by most careful removal of all vegetable tissues from the latex. G. M. K.



MASHTAKOV, S.M.

U.S.S.R.

2128. Microelements as a factor increasing the rubber yield of kok-saghyz grown on peat soils. S. M. MASHTAKOV. *Vestsi Akad. Navuk Belarus. S.S.R.*, 1952, No. 2, 101–15; *Chem. Abs.*, 1955, 49, 4096. The elements studied were copper, boron, and zinc, the manner of their application being described. Copper was the most effective. In the form of copper sulphate, root yield was increased 60.6% and rubber by 127.5%.

1C323

MASHTAKOV, S.M.

MASHTAKOV, S.M.; GOL'DINA, S.M.; PROKUDINA, R.I.

Use of 2,4-dichlorophenoxyacetic acid for increasing the strength of cereal stems. Dokl. AN SSSR 96 no.4:845-848 Je '54. (MLRA 7:6)

1. Institut melioratsii, vodnogo i bolotnogo khozyaystva Akademii nauk SSSR.
(Oats) (Peat bogs) (Dichlorphenoxyacetic acid)

MASHTAKOV, S.M.

USSR/ Agriculture - Melioration

Card 1/1 : Pub. 22 - 37/44

Authors : Mashtakov, S. M.; Kulakovskaya, T. N.; and Gol'dina, S. M.

Title : Activity of ferments and breathing intensity as indicators of biological activity of the soil

Periodical : Dok. AN SSSR 98/1, 141-144, Sep 1, 1954

Abstract : Report is made on the biological activity of the soil as determined by the breathing intensity of the latter and the activity of ferments applied to the soil. Tables, showing the number of micro-organisms, ferment activity and breathing intensity of peat and mineral soils, are included. Eight USSR references (1937-1953).

Institution : Acad. of Sc. Byeloruss-SSR, Institute of Melioration

Presented by : Academician A. L. Kursanov, June 4, 1954

MASHTAKOV, S. M.

"The Accumulation of Rubber in Kok-Saghyz in Relation to Its Biological Characteristics and Conditions of Growth." Dr Biol Sci, Inst of Botany imeni V. L. Komarov, Acad Sci USSR, Leningrad, 1955. (KL, No 12, Mar 55)

SO: Sum. No. 670 , 29 Sep 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

MASHTAKOV, S. M.

USSR/Biology - Plant physiology

Card 1/1 Pub. 22 - 45/45

Authors : Mashtakov, S. M.; Kulakovskaya, T. N.; and Gol'dina, S. M.

Title : About rubber bearing properties of wild growing Kok-Saghiz plants

Periodical : Dok. AN SSSR 103/2, 341-344, Jul 11, 1955

Abstract : Scientific data are presented on the rubber bearing properties of wild growing Kok-Saghiz plants. Four USSR references (1936-1951). Tables.

Institution : .....

Presented : Academicia A. L. Kursanov, May 20, 1955

MASHTAKOV, S. M.

USSR/Biology - Plant Physiology

Card : 1/1

Authors : Mashtakov, S. M., Gol'dine, S. M., and Prokudina, R. I.

Title : Increase in the strength of cereal grain stalks by the use of 2, 4-dichlorophenoxyacetic acid

Periodical : Dokl. AN SSSR, 96, Ed. 4, 845 - 848, June 1954

Abstract : Experiments with cats showed, that spraying of plants, during complete growth of the sprouts, with w, 4-DU (Dichlorophenoxyacetic acid) in 2 kg dosages per hectare of land, leads to a reduction in grain yield. Nine references. Table.

Institution : Acad. of Sc. Byelorussian-SSR, Inst. of Melioration Water and Swamp Control

Presented by: Academician A. L. Kursanov, April 1, 1954

MASHTAKOV, Sergey Mikhaylovich

(Inst of Soil Improvement and Marsh Economy Acad Sci BSSR)
Academic degree of Doctor of Biological Sciences, based on his defense, 27 April 1955, in the Council of the Botanical Inst imeni Komarov Acad Sci USSR, of his dissertation entitled: "The accumulation of caoutchouc in the plants of kok-saghyz in connection with its biological peculiarities and conditions of growth."

Academic degree and/or title: Doctor of Sciences

SO: Decisions of VAK, List no. 21, 22 Oct 55, Byulleten' MVO SSSR, No. 19, Oct 56, Moscow, pp. 13-24, Uncl. JPRS/[redacted]-536

USSR/Cultivated Plants - Fodders. M

Abs Jour : Ref Zhur Biol., No 12, 1958, 53671

Author : Mashtakov, S.M., Gol'dina, S.M.

Inst : AS Belorussian SSR

Title : The Effect of Azototobacterin and Molybdenum on the Uptake of Nutrients and on the Accumulation of Dry Matter in Corn Grown on Peat-Bog Soil

Orig Pub : Kukuruza v BSSR. Minsk, AN BSSR, 1957, 204-225

Abstract : Experiments conducted in 1955 at the Minsk Bog Experimental Station on peat-bog soil showed that treatment of the corn seeds (Moldavskaya Ryadovaya) with azotobacterin increased the weight of a single plant from 136.61 g (control) to 166.45 g, and the 24-hour increment of the dry substance was increased from 1.77 to 2.53 g per single plant; the leaf surface area was increased from 3220 to

Card 1/2

USSR/Cultivated Plants - Fodders. M

Abs Jour : Ref Zhur Biol., N 12, 1958, 53671

5164 cm^2 and the yield of the grain was increased by 16%. In the vegetation experiments, azotobacterin increased the crop of sprouts 1.8 times and on the ground with Mo - 2.6 times. The N, P and K contents in the corn plants were considerably increased under the effect of azotobacterin. One Mo in the dose of 10 mg per 1 kg of dry soil promoted the uptake of N and of other nutritional elements by the plants. It increased the weight oof a single plant from 227.1 to 428 g and the weight of the sprout without coating from 22.6 to 74.9 g. Bacteriolysation of the corn promoted the adaptation of azotobacter cells in the rhizosphere of the corn and intensified the development of ammoniphicates, of actinomycetes, of penicillium, and of other groups of microorganisms. -- V.V. Koperzhinskiy

Card 2/2

MASHTAKOV, S.M., prof., doktor biolog.nauk, otv.red.; GODNEV, T.N., akademik, red.; TERENT'YEV, V.M., kand.biolog.nauk, red.; SHLYK, A.A., kand. khimicheskikh nauk, red.; BULAT, O., red.izd-va; TIKHANOVICH, K., tekhred.

[Biochemistry and physiology of plants; collection of scientific works] Biokhimiia i fiziologiia rastenii; sbornik nauchnykh rabot. Minsk, Izd-vo Akad. nauk BSSR, 1958. 295 p. (MIRA 12:1)

1. Akademiya nauk Belorusskoy SSR, Minsk. Institut biologii.
2. AN Belorusskoy SSR (for Godnev).
(Biochemistry) (Botany--Physiology)

MASHTAKOV, S.M.; MATROSOV, B.F.

Role of nitrogen in plant nutrition on peat bog soils. Biul. Inst.biol.AN BSSR no.3:136-142 '58. (MIRA 13:7)
(NITROGEN) (PLANTS--NUTRITION)

MASHTAKOV, S.M.; DENISOVA, A.Z.

Variation in the structural elements of mechanical tissue in the stems of grasses induced by molybdenum. Biul. Inst. biol. AN BSSR no.3:143-145 '58. (MIRA 13:7)
(MOLYBDENUM--PHYSIOLOGICAL EFFECT) (GRASSES)

MASHTAKOV, S.M. [Mashtakou, S.M.], doktor biol.nauk, prof.

Modern practices in chemical weed control and urgent problems in scientific research on herbicides in White Russia. Vestsi AN BSSR. Ser. biial. nav. no.3:62-71 '59. (MIRA 12:12)
(White Russia--Herbicides)

MASHTAKOV, S.M.; LEDOVSKIY, S.Ya.; VOLKOVA, L.I.

Experiments in studying the physiological action of derivatives of 3-amino-1,2,4-triazole. Dokl.AN BSSR 3 no.10:422-425 O '59. (MIRA 13:2)

1. Predstavleno akademikom AN BSSR I.D.Yurkevichem.
(Triazole--Physiological effect)

17(1)

AUTHORS: Mashtakov, S. M., Gol'dina, S. M., Matrosov, B. F. SOV/20-124-1-66/69

TITLE: The Effect of Molybdenum Upon the Supply of Mineral Nutrition Elements to the Plants and Upon the Development of Microflora Under Conditions of Peat Bog Soils (Vliyaniye molibdena na postupleniye v rasteniya elementov mineral'nogo pitaniya i razvitiya mikroflory v usloviyakh torfyano-bolotnykh pochv)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 1, pp 231-233 (USSR)

ABSTRACT: The favorable influence of tracer elements upon the breeding of plants in peat bog soils has already several times been emphasized (Refs 1-4). In spite of the well-known important role of molybdenum in the life of higher plants (Refs 6-14) this effect has been little investigated. It was the aim of the authors to observe the changes of soil microflora in the case of a molybdenum introduction into peat soils. In this connection they wanted to determine the amount of NPK-elements accumulated in the plants (mineral nutrition nitrogen, phosphorus, potassium). Barley (Hordeum nudum = yachmen' golozernyy) and maize of the type Moldavskaya ryadovaya were

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used for the experiments. The peat soil had pH 4.78 . It was fertilized with potassium phosphide. In addition to that the soil was sprayed with aqueous ammonium molybdate solution (5 and 10 mg per 1 kg absolutely dry soil). Tables 1, 2 show that molybdenum promotes the absorption of NPK-elements and the protein synthesis. This effect can be explained by an increased activity of the microflora within the range of root systems. It is a well-known fact that molybdenum stimulates the development of azotobacter in the soil (Refs 4-8). Thus the amount of assimilable nitrogen is increased. In the experiments carried out by the authors azotobacter had a favorable influence upon other physiological groups of soil microorganisms (Table 3). It was furthermore proved that as a result of the intensified development of azotobacter in the "rhizosphere" of maize the leaf of the latter grew considerably bigger. Thus the

The Effect of Molybdenum Upon the Supply of Mineral Nutrition Elements to the Plants and Upon the Development of Microflora Under Conditions of Peat Bog Soils SOV/20-124-1-66/69

amount of carbohydrates formed by photosynthesis is increased and therefore also the crop (Table 4). Microorganisms were determined by F. P. Vavulo and Z. I. Konashevich. There are 4 tables and 18 references, 16 of which are Soviet.

ASSOCIATION: Institut biologii Akademii nauk BSSR (Institute of Biology, Academy of Sciences, Belorussian SSR)

PRESENTED: September 2, 1958, by A. L. Kursanov, Academician

SUBMITTED: September 1, 1958

Card 3/3

MASHTAKOV, Sergey Mikhaylovich; ZAYTSEVA, T., red.izd-va; SIDERKO, M., tekhn.red.

[Herbocides in weed control] Gerbitsidy v bor'be s sornoi rastitel'nost'iu. Minsk, Izd-vo Akad.nauk BSSR, 1960. 131 p. (MIRA 13:12)

(Herbicides)

MASHTAKOV, S.M.; LEDOVSKIY, S.Ya.; MATROSOV, B.F.

Possible use of 5-aminotetrazole and 1-phenyl-3-methylpyrazolone-5 to stimulate fruit formation in tomatoes. Biul. Inst. biol. AN BSSR no.5:196-199 '60. (MIRA 14:7)
(TOMATOES) (GROWTH PROMOTING SUBSTANCES)

MASHTAKOV, S.M.; MATROSOV, B.F.; LEDOVSKIY, S.Ya.

Use of the herbicide "dicotex-30" in flax fields under farm conditions. Biul. Inst. biol. AN BSSR no.5:200-204 '60.
(MIRA 14:7)

(FLAX) (WEED CONTROL) (ACETIC ACID)

MASHTAKOV, S.M.; MATROSOV, B.F.

Preliminary experiments in the application of growth regulators to potato plants grown in peat soils. Biul. Inst. biol. AN BSSR no.5:205-209 '60. (MIRA 14:7)
(POTATOES) (PEAT SOILS) (GROWTH PROMOTING SUBSTANCES)

YURKEVICH, I.D., red.; MASHTAKOV, Sergey Mikhaylovich

[Using herbicides and substances promoting plant growth]
Primenenie gerbitsidov i stimuliatorov rosta rastenii.
Minsk, Izd-vo Akad.nauk BSSR, 1961. 310 p. (MIRA 16:1)
(Herbicides) (Growth promoting substances)

MASHTAKOV, S.M.

Studying the physiology of growth promoting substances of plants and of herbicides. Biul. Inst. biol. AN BSSR no.6: 161-169 '61. (MIRA 15:3)

(HERBICIDES)
(GROWTH PROMOTING SUBSTANCES)

MASHTAKOV, S.M.

Scientific conference on the use of herbicides and plant growth stimulators in agriculture. Fiziol.rast. 8 no.5:646-648 '61.
(MIRA 14:10)

(Herbicides—Congresses)
(Growth promoting substances—Congresses)

MASHTAKOV, S.M. [Mashtakou, S.M.]; PAROMCHIK, I.I. [Paromchyk, I.I.]; TALANOVA, K.S.

Effect of sodium salts of 2,4-D and 2M-4X on the photosynthesis and respiration of corn hybrids and varieties. Vestsi AN BSSR.Ser.biial. nav. no.2:43-49 '62. (MIRA 15:8)

(HERBICIDES) (PHOTOSYNTHESIS) (PLANTS—RESPIRATION)

VOLYNETS, A.P. [Valynets, A.P.]; MASHTAKOV, S.M. [Mashtakou, S.M.]

Morphological changes in the varieties of fiber flax treated with growth regulating herbicides. Vestsi AN BSSR. Ser. biial. nav. no.4:33-39 '62. (MIRA 17:8)

MASHTAKOV, S.M.; PAROMCHIK, I.I.

Diurnal photosynthesis cycle in plants resistant to regulator herbicides. Dokl. AN BSSR 6 no.12:801-804 D '62. (MIRA 16:9)

1. Institut biologii AN BSSR. Predstavleno akademikom AN BSSR I.D. Yurkevichem.

MASHTAKOV, S.M.; GURINOVICH, Ye.S.; ZIMENKO, T.G.; KABAYLOVA, I.V.

Action of herbicides on soil microflora. Mikrobiologiia 31 no.1:85-89 Ja-F '62. (MIRA 15:3)

1. Institut biologii AN BSSR.
(HERBICIDES)
(SOILS—MICROBIOLOGY)

MASHTAKOV, S.M.; VOLYNETS, A.P.

Interaction of gibberellic acid and the derivatives of phenoxyacetic acid in flax plants. Dokl. AN BSSR 7 no.4: 266-269 Ap '63. (MIRA 16:11)

1. Institut biologii AN BSSR. Predstavleno akademikom AN BSSR T.N. Godnevym.

MASHTAKOV, S.M.; PROKHORCHIK, R.A.

Study of triazine derivatives as growth regulators in plants. Report No.IV: Effect of simazine and atrazine on the change in intensity of the photosynthesis and respiration of plants. Dokl. AN BSSR 7 no.6:418-421 Je '63. (MIRA 16:10)

1. Institut biologii AN BSSR. Predstavleno akademikom AN BSSR I.D. Yurkevichem.

MASHTAKOV, S.M.; PROKHORCHIK, R.A.

Study of triazine derivatives as regulators of plant growth. V. Change in the photochemical activity of chloroplasts under the influence of simazine and atrazine. Dokl. AN BSSR 7 no.8:557-560 Ag '63. (MIRA 16:10)

1. Institut biologii AN BSSR. Predstavleno akademikom AN BSSR I.E. Yurkevichem.

MASHTAKOV, S.M.; PROKHORCHIK, R.A.

Stimulation of photosynthesis and the Hill reaction in the leaves of corn grown from seeds treated with simazine and atrazine. Dokl. AN BSSR 7 no.10:700-703 O '63.
(MIRA 16:11)

1. Institut biologii AN BSSR. Predstavleno akademikom AN BSSR I.D. Yurkevichem.

MASHTAKOV, S.M.; VOLYNETS, A.P.

Interaction of gibberellic acid and the derivatives of phenoxyacetic acid in fiber plants. Dokl. AN SSSR 150 no.1:191-194 My '63. (MIRA 16:6)

1. Institut biologii AN Belorusskoy SSR. Predstavleno akademikom A.L.Kursanovym.

(Flax) (Gibberellic acid)
(Plants, Effect of acids on) (Acetic acid)

BULANOV, P.A., red.; VECHER, A.S., red.; GODNEV, T.N., red.; GONCHARIK, N.M., red.; LYAKHNOVICH, Ya.P., red.; MASHTAKOV, S.M., red.; MIRONENKO, A.V., red.; TERENT'YEV, V.M., red.

[Physiological characteristics of cultivated plants] Fiziologicheskie osobennosti kul'tiviruemykh rastenii. Minsk, Izd-vo "Nauka i tekhnika," 1964. 130 p. (MIRA 17:6)

1. Akademiya navuk BSSR, Minsk. Institut eksperimental'noy botaniki i mikrobiologii.

MASHTAKOV, S.M. [Mashtakou, S.M.]; PROKHORCHIK, R.A. [Prokharchyk, R.A.]

Physiological reactions of plants to simazine and atrazine.
Vestsi AN BSSR Ser. biial. nav. no.3:46-53 '64 (MIRA 18:1)

trichloroacetic acid. The investigated grasses could be arranged in the following series with respect to increasing resistance: wheat, rye, barley [illegible] millet. The comparative phytotoxicity of these herbicides [illegible] depending on the species of plant: in the case of corn and oats, [illegible] exhibited higher herbicidal activity than trichloroacetic acid [illegible] in the case of wheat, both preparations manifested the same activity [illegible] rye, sodium trichloroacetate exhibited greater activity than dalapon. [illegible] art. has 4 figures and 3 tables.

MASHTAKOV, S.M.; DENISOVA, A.Z.; PARADOVSKAYA, Z.I.; PARSHAKOVA, Z.P.

Effect of the sodium salt of 2-methyl-4-chlorophenoxyacetic acid on the nucleic acid content of corn plants. Dokl. AN BSSR 8 no.10: 677-679 O '64. (MIRA 18:3)

1. Institut eksperimental'noy botaniki i mikrobiologii AN BSSR.

VOLYNETS, Aleksandr Potapovich; MASHTAKOV, Sergey Mikhaylovich; POZDNYAKOVA, A., red.

[Effect of 2M-4KH and 2, 4-D herbicides on fiber flax varieties] Deistvie gerbitsidov 2M-4KH i 2,4-D na sorta L'na-dolguntsa. Minsk, Nauka i tekhnika, 1965. 70 p. (MIRA 18:12)

MIRONENKO, Aleksey Viktorovich; MASHTAKOV, S M., doktor biol. nauk, prof., red.

[Physiology and biochemistry of lupine] Fiziologiia i biokhimiia liupina. Minsk, Nauka i tekhnika, 1965. 201 p. (MIRA 18:5)

PARSHAKOVA, Z.S. MASHTAKOV, S.M. [Mashtakou, S.M.]

Effect of herbicide 2M-4X on the free alanine content in corn plant. Vestsi AN BSSR. Ser. biial. nav. no.1:59-64 '65.
(MIRA 18:5)

MASHTAKOV, S.M. [Mashtakou, S.M.]; MOSHCHUK, P.A. [Mashchuk, P.A.]

Reaction of pea and lupine varieties to the treatment with herbicides at various periods of vegetation. Vestsi AN BSSR. Ser. biial. nav. no.2:48-55 '65. (MIRA 18:12)

MASHTAKOV, S.M. [Mashtakov, S.M.]; MIKHAILOVA, P.A. [Mykhailova, P.A.]

Effect of sodium trichloroacetate and dalapon on the growth and development of leguminous plants. Vestsi AN BSSR. Ser. biial. nav. no.4:30-36 '64. (MIRA 18:12)

L 2027-66 EWT(1)/EWT(m)/EWA(b)-2 RO

ACC NR: AP5024150 UR/0250/65/009/009/0610/0612

AUTHOR: Deyeva, V. P.; Mashtakov, S. M.

TITLE: Adenosine triphosphate, nucleic acids and protein level changes in plants under the effect of 2,4-D and some trace elements

SOURCE: AN BSSR. Doklady, v. 9, no. 9, 1965, 610-612

TOPIC TAGS: plant chemistry, plant metabolism, plant sensibility, boron, zinc, nucleic acid, protein, herbicide

ABSTRACT: The article reports a study of these processes under the effect of the herbicide 2,4-D, alone or mixed with traces of boron and zinc, conducted on two hybrid varieties of corn, one resistant and the other sensitive to 2,4-D. Changes in levels of the three substances were determined in sections of the root ends and the whole third leaf in the initial developmental stage. At that time, the plant was left to soak for 24 hrs in a 2,4-D solution with or without either or both of the trace elements. Under the effect of the herbicide, ATP synthesis declined by 29% in the resistant variety and by 46% in the sensitive variety. Similar ATP decrease also appeared in the leaves. The trace elements, particularly zinc, considerably impeded this reduction so that ATP levels in the resistant variety approximated that of controls. The nucleic acid level increased in both roots and leaves, since its

Card 1/2

L 2027-66
ACC NR: AP5024150

conversion into protein could not be accomplished, and decreased almost to control values upon addition of the trace elements. Protein synthesis decreased by 21-11.5% under the 2,4-D effect, and the trace elements, particularly zinc, led to its increase approximately to control values. The trace elements thus led to reestablishment of the plants' energy balance. Orig. art. has: 3 tables.

ASSOCIATION: Institut eksperimental'noy botaniki i mikrobiologii AN BSSR (Institute of Experimental Botany and Microbiology, AN BSSR)

SUBMITTED: 14Jan65 ENCL: 00 SUB CODE: LS

NR REF SOV: 006 OTHER: 008

Card 2/2

ACC NR: AP6033159 SOURCE CODE: UR/0250/66/010/009/0691/0694

AUTHOR: Mashtakov, S. M.; Paromchik, I. I.

ORG: Institute of Experimental Botany, AN BSSR (Institut eksperimental'noy botaniki AN BSSR)

TITLE: Changes in photosynthesis and Hill's reaction in various varieties of corn treated with 2,4-D or 2M-4X

SOURCE: AN BSSR. Doklady, v. 10, no. 9, 1966, 691-694

TOPIC TAGS: herbicide, photosynthesis, photosynthesis inhibition, chloroplast, chloroplast photochemical activity, Hill's reaction, defoliant

ABSTRACT: Experiments were conducted with close varieties of the same plant species, namely, corn interline hybrids VIR 117 (resistant to herbicides) and VIR 42 (sensitive), and selfpollinated lines VIR 38 (resistant) and VIR 44 (sensitive). The effect of sodium salts of 2,4-D and 2M-4X used in 0.01 or 0.1% solutions on the intensity of photosynthesis, Hill's reaction in live leaves and the photochemical activity of separated chloroplasts was studied. The latter was determined either directly in vitro, or in vivo, by first treating the live plants with the herbicides and subsequently separating the treated chloroplasts. It was found that

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ACC NR: AP6033159

the 0.01% solution of 2M-4X stimulated Hill's reaction both in herbicide resistant and sensitive varieties, while 2,4-D in this concentration stimulated VIR 38 and VIR 44; VIR 117 and VIR 42 were not affected significantly. The high concentration of both herbicides inhibited the photochemical activity of chloroplasts of both kinds of plants. Experiments with chloroplasts treated in vivo indicated that different varieties display different response to the herbicides used.

The study indicated that herbicides 2,4-D and 2M-4X do affect the intensity of photosynthesis in leaves and the photochemical activity of chloroplasts; these processes in close varieties of the same plant species depend on the type of herbicide and the sensitivity of the given variety. [WA-50; CBE No. 12]

SUB CODE: 06, 07/ SUBM DATE: 19Feb65/ ORIG REF: 002/ OTH REF: 013/

Card 2/2

ACC NR: AP6034187 SOURCE CODE: UR/0250/66/010/010/0792/0795

AUTHOR: Mashtakov, S. M.; Paromchik, I. I.

ORG: Institute of Experimental Botany, AN BSSR (Institut eksperimental'noy botaniki, AN BSSR)

TITLE: Changes in the stability of the chlorophyll-protein-lipid complex in plants treated with sodium salts of chlorophenoxyacetic acids

SOURCE: AN BSSR. Doklady, v. 10, no. 10, 1966, 792-795

TOPIC TAGS: herbicide, photosynthesis, photosynthetic apparatus, herbicide resistance, chlorophyll

ABSTRACT: In a continuation of their study on the comparative effect of 2,4-D or 2M-4K herbicides on herbicide resistant and sensitive plant varieties, the authors attempted to find the effect of the above herbicides on the stability of the chlorophyll-protein-lipid complex in vivo The following plants were selected, each in two varieties, for the experiment: corn - double interline hybrids VIR 117 (resistant) and VIR 42 (sensitive); and long-fibered flax 1288/12 (resistant) and L-112 (sensitive). The young plants (about 6 leaves) were treated with solutions of sodium salts of 2,4-D or 2M-4K; corn by the introduction of 9.5 kg herbicide per ha, and flax by spraying the plants with 0.04%

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ACC NR: AP6034187

solutions (1.5 kg per ha). The samples were taken 24, 72, and 168 hr after treatment. The stability of the complex was determined by resistance of the latter to the extraction from desintegrated leaves with petroleum ether; in addition, the photosynthetic activity of chloroplasts and intensity of photosynthesis were determined. The results indicated that the stability of the chlorophyll-protein-lipid complex decreases after the treatment with herbicides, especially in herbicide sensitive plants. This can be explained by a transition of the aggregate chlorophyll into its monomer form, more readily soluble in petroleum ether, which means that some qualitative changes take place in the photosyntheic apparatus of the treated plants. The changes in photochemical activity depend on the toxicity of herbicide and the resistance of the given plant variety. The general conclusion drawn from the study is that the photosynthetic apparatus in the herbicide sensitive plants is unstable and is easily damaged by the regulatory herbicides. Orig. art. has: 2 figures. [W.A. 50]

SUB CODE: 06/ SUBM DATE: 28Mar66/ ORIG REF: 012/ OTH REF: 006

Card 2/2

ACC NR: AP6033159 SOURCE CODE: UR/0250/66/010/009/0691/0694

AUTHOR: Mashtakov, S. M.; Paromchik, I. I.

ORG: Institute of Experimental Botany, AN BSSR (Institut eksperimental'noy botaniki AN BSSR)

TITLE: Changes in photosynthesis and Hill's reaction in various varieties of corn treated with 2,4-D or 2M-4X

SOURCE: AN BSSR. Doklady, v. 10, no. 9, 1966, 691-694

TOPIC TAGS: herbicide, photosynthesis, photosynthesis inhibition, chloroplast, chloroplast photochemical activity, Hill's reaction, defoliant

ABSTRACT: Experiments were conducted with close varieties of the same plant species, namely, corn interline hybrids VIR 117 (resistant to herbicides) and VIR 42 (sensitive), and selfpollinated lines VIR 38 (resistant) and VIR 44 (sensitive). The effect of sodium salts of 2,4-D and 2M-4X used in 0.01 or 0.1% solutions on the intensity of photosynthesis, Hill's reaction in live leaves and the photochemical activity of separated chloroplasts was studied. The latter was determined either directly in vitro, or in vivo, by first treating the live plants with the herbicides and subsequently separating the treated chloroplasts. It was found that

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ACC NR: AP6033159

the 0.01% solution of 2M-4X stimulated Hill's reaction both in herbicide resistant and sensitive varieties, while 2,4-D in this concentration stimulated VIR 38 and VIR 44; VIR 117 and VIR 42 were not affected significantly. The high concentration of both herbicides inhibited the photochemical activity of chloroplasts of both kinds of plants. Experiments with chloroplasts treated in vivo indicated that different varieties display different response to the herbicides used.

The study indicated that herbicides 2,4-D and 2M-4X do affect the intensity of photosynthesis in leaves and the photochemical activity of chloroplasts; these processes in close varieties of the same plant species depend on the type of herbicide and the sensitivity of the given variety. [WA-50; CBE No. 12]

SUB CODE: 06, 02/ SUBM DATE: 19Feb65/ ORIG REF: 002/ OTH REF: 013/

Card 2/2

ACC NR: AP6034187 SOURCE CODE: UR/0250/66/010/010/0792/0795

AUTHOR: Mashtakov, S. M.; Paromchik, I. I.

ORG: Institute of Experimental Botany, AN BSSR (Institut eksperimental'noy botaniki, AN BSSR)

TITLE: Changes in the stability of the chlorophyll-protein-lipid complex in plants treated with sodium salts of chlorophenoxyacetic acids

SOURCE: AN BSSR. Doklady, v. 10, no. 10, 1966, 792-795

TOPIC TAGS: herbicide, photosynthesis, photosynthetic apparatus, herbicide resistance, chlorophyll

ABSTRACT: In a continuation of their study on the comparative effect of 2,4-D or 2M-4K herbicides on herbicide resistant and sensitive plant varieties, the authors attempted to find the effect of the above herbicides on the stability of the chlorophyll-protein-lipid complex in vivo. The following plants were selected, each in two varieties, for the experiment: corn - double interline hybrids VIR 117 (resistant) and VIR 42 (sensitive); and long-fibered flax 1288/12 (resistant) and L-1120 (sensitive). The young plants (about 6 leaves) were treated with solutions of sodium salts of 2,4-D or 2M-4K; corn by the introduction of 9.5 kg herbicide per ha, and flax by spraying the plants with 0.04%

Card 1/2

ACC NR: AP6034187

solutions (1.5 kg per ha). The samples were taken 24, 72, and 168 hr after treatment. The stability of the complex was determined by resistance of the latter to the extraction from desintegrated leaves with petroleum ether; in addition, the photosynthetic activity of chloroplasts and intensity of photosynthesis were determined. The results indicated that the stability of the chlorophyll-protein-lipid complex decreases after the treatment with herbicides, especially in herbicide sensitive plants. This can be explained by a transition of the aggregate chlorophyll into its monomer form, more readily soluble in petroleum ether, which means that some qualitative changes take place in the photosyntheic apparatus of the treated plants. The changes in photochemical activity depend on the toxicity of herbicide and the resistance of the given plant variety. The general conclusion drawn from the study is that the photosynthetic apparatus in the herbicide sensitive plants is unstable and is easily damaged by the regulatory herbicides. Orig. art. has: 2 figures. [W.A. 50]

SUB CODE: 06/ SUBM DATE: 28Mar66/ ORIG REF: 012/ OTH REF: 006

Card 2/2

MASHTAKOV, S.V.

Problem of efficient electric drives in drilling. Energ.biul.no.3 7-11 Mr, '56. (MIRA 9:7)
(Oil well drilling) (Electric driving)

15-57-3-3918D

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 3, p 201 (USSR)

AUTHOR: Mashtakov, V. P.

TITLE: A Study of the Use of Continuous Guards in the Prokop'-yevskiye Mines of the Kuzbass (Kuznetsk Basin) Region and Means of Improving Them (Analiz primeneniya bessektsionnykh shchitov na shakhtakh Prokop'yevskogo rayona Kuzbassa i puti ikh dal'neyshego uluchsheniya)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Technical Sciences, presented to the Tomskiy politekhn. in-t (Tomsk Polytechic Institute), Tomsk, 1956.

ASSOCIATION: Tomskiy politekhn. in-t (Tomsk Polytechnic Institute)

Card 1/1

MASHTAKOV, V.S.
p.3

PHASE I BOOK EXPLOITATION SOV/4118

Khimicheskaya zashchita organizma ot ioniziruyushchikh izlucheniy (Chemical Protection of the Organism From Ionizing Radiation) Moscow, Atomizdat, 1960. 151 p. Errata slip inserted. 6,000 copies printed.

Ed. (Title page): V.S. Balabukh, Professor; Ed. (Inside book): A.I. Zavodchikova; Tech. Ed.: N.A. Vlasova.

PURPOSE: This book is intended for chemists doing research on means of chemical protection and on complexing agents, and for biologists and other specialists working on problems in radiobiology.

COVERAGE: This collection of articles reviews the present state of the problem of chemical protection from ionization radiation and contains experimental data on the synthesis and biological testing of the protective properties of a number of chemical compounds (the aminothiols and pyrimidine derivatives). Results of experimental investigation on the elimination of radioactive isotopes from the organism are presented and the characteristics of the state of certain radioactive isotopes in the blood and in bone tissue are noted.

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Attention is given to explaining the action mechanism of protective substances. The articles discuss in the light of certain radiobiological and biophysical hypotheses possible ways of protecting the biosubstructure from the injurious effects of ionizing radiation. The effectiveness of complexing agents which induce radioactive isotopes to combine and be eliminated from the organism is evaluated on the basis of physicochemical data and biological experiments. No personalities are mentioned. Soviet and non-Soviet sources follow each article.

TABLE OF CONTENTS:

L 20491-66 EWT(m)/ETC(f)/EWG(m)/EWP(t) IJP(c) RDW/JD
ACC NR: AP6003819 SOURCE CODE: UR/0181/66/008/001/0286/0287

45
B

AUTHOR: Nolle, E. L.; Vavilov, V. S.; Golubev, G. P.; Mashtakov, V. S.

ORG: Physics Institute im. P. N. Lebedev, AN SSSR, Moscow (Fizicheskiy institut AN SSSR)

TITLE: Induced radiation of cadmium selenide due to electron excitation

SOURCE: Fizika tverdogo tela, v. 8, no. 1, 1966, 286-287

TOPIC TAGS: light radiation, radiation intensity, light emission, light excitation

ABSTRACT: An attempt was made to obtain stimulated emission of light from calcium selenide excited with electron pulses. A specimen having the form of a rectangle parallelepiped 600 x 400 x 50 μ was used for observation of the emission. The electron beam was incident on the largest surface of the specimen, while the emission was recorded from the specimen's side faces, the distance between which was 600 μ. The measurements were made at 80K. The observation of emission from the side faces showed that the maximum of the spectral band is shifted by 35 Å to the longwave side as compared with emission recorded from the forward face irradiated with electrons. When current density was increased from 1 amp/cm^2, a sharp increase in emission intensity was observed along with the simultaneous appearance of the directional effect of emission and a decrease of the width at the half-height of the band from 80 to 15 Å. At a current density of 2.5 amp/cm^2, the emission spectrum has an equidistant struc-

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L 20491-66

ACC NR: AP6003819

ture in the form of separate stages located 2.6 Å from each other. These stages apparently are associated with the resonator modes. The maximum of emission was at λ = 6950 Å. The angle between the directions corresponding to the values of emission intensity equal to one-half of the maximum value was 12° at a current density of 2.5 amp/cm^2. These data indicate that generation of stimulated emission occurs in cadmium selenide. Orig. art. has: 2 figures. [JA]

SUB CODE: 20/ SUBM DATE: 11Aug65/ ORIG REF: 003/ OTH REF: 001/ ATD PRESS: 4215

Card 2/2

L 40050-66 EWT(1)/T IJP(c) AT

ACC NR: AP6022024 SOURCE CODE: UR/0120/66/000/003/0176/0179

AUTHOR: Vavilov, V. S.; Nolle, E. L.; Yegorov, V. D.; Golubev, G. P.; Mashtakov, V. S.

ORG: Institute of Physics, AN SSSR, Moscow (Fizicheskiy institut AN SSSR) 47 B

TITLE: Outfit for studying the recombination radiation of electron-excited semiconductors

SOURCE: Pribory i tekhnika eksperimenta, no. 3, 1966, 176-179

TOPIC TAGS: semiconductor research, recombination radiation

ABSTRACT: Connected with the outfits described by C. Benoit et al. (Physics of Semiconductors, Paris, Dunod, 1964), an improved outfit developed by the authors is capable of exciting semiconductors by 150-kev electron pulses that have a current density of 3 amp/cm²; pulse duration, 0.25--10 μsec; repetition rate, up to 30 cps. Stimulated radiation of cadmium telluride was achieved in this outfit for the first time. An electron tube with a constant high voltage and a pulsed grid modulation is used for high-power electron excitation of semiconductors; a 20-section steatite tube has been actually used. A block diagram of the outfit, principal circuits of the pulse generator and synchronous detector, and the pulse shape of the electron beam are shown. A He cryostat permits studying the recombination radiation of semiconductors at temperatures down to 10K. "The authors wish to thank S. I. Vintovkin, V. S. Ivanov, and B. D. Kopylovskiy for their valuable advice connected with the development of the outfit." Orig. art. has: 4 figures. [03]

SUB CODE: 20, 09 / SUBM DATE: 25May65 / ORIG REF: 004 / OTH REF: 002

Card 1/1 gd UDC: 539.293

TYURYAYEV, I. Ya. TSAYLINGOLD, A. L. ; MASHTAKOV, V.V.; KOLOBIKHIN, V.A.

Obtaining butadiene-1,3 by the oxidation dehydrogenation of butene in the fluidized bed. Neftekhimiia 4 no.2:190-193 Mr-Ap'64 (MIRA 17:8)

1. Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka, Yaroslavl'.

MASHTAKOV, Ye.D., inzh.

Special features in the alignment of exciters with turbogenerators.
Energetik 9 no.10:16-17 O '61. (MIRA 14:10)
(Turbogenerators)

NIKIFOROVA, N.A., starshiy nauchnyy sotrudnik; MASHTAKOVA, A.Kh., mladshiy nauchnyy sotrudnik

Powdery mildew of cucumbers in greenhouses. Zashch. rast. ot vred. i bol. 6 no.12:30-31 D '61. (MIRA 16:5)

1. Moldavskiy institut oroshayemogo zemledeliya i ovoshchevodstva, Tiraspol'.

MASHTAKOVA, G.P.

Interrelationship of the phyto- and zooplankton during the spring-summer period in the northwestern part of the Black Sea. Okeanologiia 2 no.6:1083-1084 '62. (MIRA 17:2)

1. Azovo-Chernomorskiy nauchno-issledovatel'skiy institut rybnogo khozyaystva i okeanografii, Kerch'.

MASHTAKOVA, K.

Questions on radio manufacture were solved here. Radio no.4:5-6 Ap '60. (MIRA 13:8)

(Radio)

USSR/Metals Dec 19
Steel, High-Speed
Steel, Tungsten

"Effect of Niobium on Characteristics of Low-Tungsten High-Speed Steel," L. D. Mashtakova, N. T. Gudtsov, Abstracted, Metal Inst imeni A. A. Baykov, Acad Sci USSR, 8½ pp

"Iz Akad Nauk SSSR, Otdel Tekh Nauk" No 12

In 1939 there were several tests and experiments to determine effect of niobium, titanium, cobalt, or molybdenum on cutting characteristics of high-speed steel. Authors report data obtained as result of continuation of those tests, particularly on cutting

USSR/Metals (Contd) 57761

Dec 1947

action of low-tungsten content high-speed steel. Authors conducted experiments to determine effect of niobium on structure and cutting ability of steel containing 2.6-3.2% tungsten. Submitted, 15 Jul 1947.

Evaluation B-76608, 19 Jun 54

57761

PA 57761

MASHTAKOVA, L. D.

USSR/ Miscellaneous - High-grade steel

Card 1/1 : Pub. 124 - 5/35

Authors : Gudtsov, N. T., Academician.; and Mashtakova, L. D.

Title : High-grade structural steel

Periodical : Vest. AN SSSR 7, 38-40, July 1954

Abstract : The production of a new high-grade but low-priced structural steel at the A. A. Baykov Metallurgical Institute of the Acad. of Sc. USSR, is described. The mechanical and physical properties of the new type structural steel, are outlined. The new steel perfectly satisfies the technical and economical requirements of the construction industry. The experimental process in developing this steel is analyzed.

Institution : ....

Submitted : ....

SOV/137-57-1-1390

Translation from: Referativnyy zhurnal. Metallurgiya, 1957, Nr 1, p 184 (USSR)

AUTHORS: Gudtsov, N., Mashtakova, L.

TITLE: Low-alloy High-strength Steel (Nizkolegirovannaya stal' povyshennoy prochnosti)

PERIODICAL: Oktyabr', 1956, Nr 6, pp 143-145

ABSTRACT: An article intended for the general public. The authors examine some general principles of alloying steel with a group of small (total not over 3%) additions of various elements, the chemical, physical, mechanical, and working properties of low-alloy structural steel, requirements exacted by the builders, and the prospects of utilization of low-alloy, high-strength steel in the national economy.

A. M.

Card 1/1

MASHTAKOVA, L.D.

AUTHOR: GUDZOV,N.T., MASHTAKOVA,L.D. PA - 2493

TITLE: Titanium, its Alloys and the Ranges of its Application. (Titan, yego splavy i sfery primyenyeniya, Russian)

PERIODICAL: Vestnik Akademii Nauk SSSR, 1957, Vol 27, Nr 2, pp 59-68 (U.S.S.R.)

Received: 5 / 1957 Reviewed: 6 / 1957

ABSTRACT: This paper deals with the general properties of pure titanium, various methods of its production, advantages compared to other metals, and various possibilities for its application. Different types of titanium alloys and their properties are enumerated. The properties of titanium alloys are shown in form of a table. The paper further discusses methods of hardening that are applicable in the case of titanium and its alloys; the influence exercised by the atmosphere on its alloys in the course of a production process, as well as when used for motor and aircraft components (aircraft with supersonic velocity) etc; further subjects discussed are its age limit; various possibilities for the application of titanium and its alloys, above all as coverings for aircraft, rotors of jet planes, brakes, various weapons, anti-aircraft guns, ammunition cases, shipbuilding, etc; application of titanium coatings by means of electrolysis on to steel plates, and possibilities for the use of this bimetal, for electric lines of steel wire coated with titanium, with a copper or aluminum protective coating etc; use of

Card 1/2

PA - 2493

Titanium, its Alloys and the Ranges of its Application.

titanium cathodes in galvanoplastics; superhard alloys of titanium and tungsten for tools. There are large titanium deposits in the U.S.S.R., particularly in the Ural district in form of ilmenite ($FeTiO_2$). The authors recommend that an inexpensive and simple technology of producing titanium be worked out as soon as possible by Russian scientists in order to be able "to utilize the vast deposits of titanium in the U.S.S.R. as soon and as effectively as possible."

ASSOCIATION: Not given
PRESENTED BY:
SUBMITTED:
AVAILABLE: Library of Congress

Card 2/2

MASHTAKOV, L.D.

Akademiya nauk SSSR. Institut nauchno-tekhnicheskoy informatsii

Metallurgiya i metallovedeniye; khimiya, metallovedeniye i obrabotka titana (Metallurgy and Metallography; Chemistry, Metallography, and Treatment of Titanium) Moscow, 1959. 283 p. (Series: Itogi nauki; tekhnicheskiye nauki, 2) Errata slip inserted. 2,700 copies printed.

Ed.: R. V. Agayev, Corresponding Member, Academy of Sciences, USSR; Ed. of Publishing House: V. S. Rzhanitsyn; Tech. Ed.: Yu. V. Rylina.

PURPOSE: This collection of articles is intended for metallurgists working with titanium alloys.

COVERAGE: The articles in this collection deal with the chemistry, metallurgy, and machining of titanium and titanium alloys. The articles are based on abstracts appearing in the Referativnyy zhurnal for chemistry and metallurgy, from 1953 to 1955. For the most part the articles are based on Non-Soviet material. No personalities are mentioned. References follow each article.

Savitskiy, Ye. M., and R. A. Tylkina. Properties of Titanium and Titanium Alloys 103

This is a survey of the physical and mechanical properties of titanium and titanium alloys. Data are given on the effect of oxygen, nitrogen, hydrogen, and carbon on the mechanical properties of titanium.

Ovchinnikov, B. P., and L. D. Markhabova. Heat Treatment of Titanium and Titanium Alloys 163

The authors discuss work hardening, annealing, grain refining, and other heat-treating methods for titanium and titanium alloys. Also discussed are the effect of alloying elements on heat-treating characteristics, mechanical properties after heat treating, and structural changes at heat treating.

Arshinov, V. N. Thermochemical Treatment (Diffusion Coating) of Titanium 187

This article deals with the nitriding, boronizing, and siliconizing of titanium.

Bolshakov, A. Ye., A. F. Danilchenko, and I. N. Pavlov. Forming of Titanium and Titanium Alloys 195

The authors discuss the special features of plastic deformation, general characteristics of cold and hot working, individual forming operations, preparatory and finishing operations, organization of production, and storage and utilization of waste.

Savitskiy, Ye. M., and R. A. Tylkina. Recrystallization of Titanium Alloys 226

Recrystallization of magnesium-reduced and iodide titanium is discussed in reference to its occurrence after cold working, hot forging, annealing, tempering, and hardening. Data are also given on the effect of the annealing temperature on the properties of titanium and the effect of alloying additions on the recrystallization temperature.

Bochvar, A. A., Kh. I. Khachaturyan, and G. V. Kazarov. Deformation and Recrystallization Textures of Titanium and Titanium Alloys 247

The article deals with textures assumed by titanium and titanium alloys after different forming operations.

Shchegolev, N. Kh., and G. V. Kazarov. Welding and Soldering of Titanium and Titanium Alloys 252

Welding characteristics of titanium are discussed. Data are given on welding and soldering methods.

Kalashnikov, B. F., and A. I. Ponomarev. Methods for Chemical Analysis of Titanium and Titanium Products 285

Data are furnished on qualitative, volumetric, polarographic, and colorimetric methods of analysis. Phase analysis is also discussed.

Romanov, K. P. Theory and Practice of Machining Titanium Alloys 311

The following topics are discussed: determination of machinability; causes of poor machinability; effect of coolants, lubricants, and other factors on machinability; materials for machining; titanium alloys; machining recommendations; [illegible]

MASHTAKOVA, L. D.

18(0) PHASE I BOOK EXPLOITATION SOV/2516

Akademiya nauk SSSR. Institut mashinoy i tekhnicheskoy informatsii

Metallurgiya SSSR, 1917-1957) [k.] II (Metallurgy in the USSR, 1917 - 1957) Vol 2) Moscow, Metallurgizdat, 1959. 813 p. Errata slip inserted. 3,000 copies printed.

Ed. (Title page): I. P. Bardin, Academician; Ed. (Inside book): G. V. Popova; Tech. Ed.: P. S. Kalashnyuk.

PURPOSE: This book is intended for metallurgists.

COVERAGE: The articles in this collection present historical data on the achievements of Soviet metallurgy, both ferrous and nonferrous, during the period 1917-1957. Advances in theory and practical application are thoroughly discussed. Many of the articles describe the present status of individual branches of metallurgy and give an idea of what may be expected in the future. Advances made in other countries are also discussed. The articles are accompanied by a large number of references. For further coverage, see Table of Contents.

Portnoy, I. Kh., Corresponding Member, USSR Academy of Sciences, Professor, Doctor of Technical Sciences. (Institute of Metallurgy imeni A. A. Baykov, USSR Academy of Sciences) Scientific Study of the Rolling Process 96

This article is an extensive survey of scientific writings on the rolling process published in various countries including the USSR since 1899. The writings deal with historical development, friction between rolls and metal, force and power relations, deformation, high-speed rolling, and special methods of rolling.

Bardin, I. P., Academician; and L. L. Pinkhasovich, Candidate of Technical Sciences. (Institute of Metallurgy imeni A. A. Baykov, USSR Academy of Sciences) The Roll Problem 82

Historical information on the development of engineering standards for the acceptance of rolls and on the amount of rolls manufactured by steelworks, foundries, and rolling mills is presented. Changes in weight and types of rolls, improvements in quality and technique (e.g., quenching from rolling temperature and after reheating, use of alloy steel, etc.) are pointed out. Measures taken for further improvement and elimination of defects are mentioned.

Card 3/15

GUDTSOV, N.T.; MASHTAKOVA, L.D.

Heat treatment of titanium and its alloys. Itogi nauki: Tekh. nauki no.2:163-186 '59. (MIRA 12:9)
(Titanium--Heat treatment)

POGORELOVA, T.I.; GRACHEVA, A.L.; MASHTAKOVA, P.A.; TIMOSHENKO, A.P.; YAKOVLEVA, G.A.; SHUBAYEVA, S.M.; SERGEYEV, Ye.V.; LACHUGINA, V.A.; KOMSOMOL'TSEVA, L.I., red.; TOCHENYY, N.S., red.; GIL'DEBRANT, Ye., tekhn. red.

[Economy of Krasnoyarsk Territory; a statistical manual] Narodnoe khoziaistvo Krasnoiarskogo kraia; statisticheskii sbornik. Krasnoiarsk, 1958. 332 p. (MIRA 11:10)

1. Krasnoyarsk (Kray). Statisticheskoye upravleniye. 2. Nachal'nik Statisticheskogo upravleniya Krasnoyarskogo kraya (for Tochenyy). (Krasnoyarsk Territory--Statistics)

EVLIYA, Chelebi [Evliya, Efendi]; ZHELTYAKOV, A.D.; TVERTINOVA, A.S. [translator]; VEKILOV, A.P. [translator]; GARBUZOVA, V.S. [translator]; GRIGOR'YEV, A.P. [translator]; ZYRIN, A.A. [translator]; IVANOVA, R.D. [translator]; IVANOV, S.N.[translator] Prinimali uchastiye: KYAMILEV, Kh. [translator]; MASHTAKOVA, Ye.I. [translator]; GRUNINA, E.A., red. izd-va; KUZ'MIN, I.F., tekhn. red.

[A travel book (excerpts from the work of a 17th century Turkish traveler); translation and commentary] Kniga puteshestviia (izvlecheniia iz sochineniia turetskogo puteshestvennika XVII veka); perevod i kommentarii. Moskva, Izd-vo vostochnoi lit-ry. (Pamiatniki literatury narodov Vostoka: Perevody, no.6) No.1. [Moldavia and the Ukraine] Zemli Moldavii i Ukrainy. 1961. 337 p. (MIRA 14:12)

1. Vostochnyy fakul'tet Leningradskogo Gosudarstvennogo universiteta (for all except Kyamilev, Mashtakova, Grunina, Kuz'min).
2. Institut narodov Azii AN SSSR (for Kyamilev , Mashtakova).
(Elviya, Efendi, ca. 1611- ca. 1682)
(Moldavia--Description and travel)
(Ukraine--Description and travel)

KHORUNZHEVA, L.D.; LYUDVIG, A.D.; MASHTAKOVA, Z.A.; TUMAILOVA, L.M.

Extermination of favus in the Bakharden, Geok-Tepinsk, and Ashkhabad Rural Districts. Zdrav. Turk. 5 no.6:28-29 N-D '61. (MIRA 15:2)

1. Iz dispansernogo otdela (zav. - L.D.Khorunsheva) kozhno-venerologicheskogo instituta (nauchnyy rukovoditel' - prof. N.F. Rodyakin).

(TURKMENISTAN--FAVUS)

MASHTALER, G. A.

USSR/Biology - Fowls Vegetative Hybridization 21 Mar 50

"Effect of Heterogenic Egg Protein on the Development of Fowls," G. A. Mashtaler, Kiev State Pedagogical Inst imeni A. M. Gor'kiy

"Dok Ak Nauk SSSR" Vol LXXI, No 3, pp 549-552

Describes experiments in transplanting egg protein from eggs of one type fowl to that of another by slight variation of Bogolyubskiy's method. Used the eggs of different breeds of chickens and in several series of experiments submitted those of ducks, geese and turkeys to interspecies hybridization. Finds

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USSR/Biology - Fowls (Contd) 21 Mar 50

that in some experiments increases are effected in rate of chick development, and weight. Suggests this transplantation could be important factor in developing good meat-producing chickens and possibly in producing new species. Submitted 24 Jan 50 by Acad A. I. Oparin.

165T10

USSR/Farm Animals - Domestic Fowls. Q-4

Abs Jour : Ref Zhur - Biol., No 7, 1958, 30998

Author : Mashtaler G.A.
Inst : -
Title : The "Cold" Raising of Young Fowls.
(Kholodnoye vyrashchivaniye molodnyaka ptits).

Orig Pub : Sots. tvarinnitstvo, 1957, No 4, 40-42.

Abstract : No abstract.

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MASHTALER, S.A.

MASHTALER, S.A.

Achievements of Michurin's biological theory in foreign countries.
Visnyk AN URSR 28 no.8:42-52 Ag '57. (MIRA 11:1)
(Biology) (Michurin, Ivan Vladimirovich, 1855-1935)

IVANCHENKO, Prokofiy Leont'yevich, prof. Prinimal uchastiye MASHTALER, G.A.[Mashtaler, H.A.], doktor biol. nauk prof.; KHAVETS, G.K., red.

[A course in Darwinism] Kurs darvinizmu. Kyiv, "Radians'ka shkola," 1962. 351 p. (MIRA 17:4)

MASHTALER, M.P. (s. Synzhereya)

Infecticus mononucleosis and its differential diagnosis from Botkin's disease. Zdravookhranenie 2 no.5:26-28 S-O '59. (MIRA 13:4)

1. Iz bol'nitsy Lazovskogo rayona (glavnyy vrach Yu.I. Erlikh). Nauchnyy rukovoditel' - zaveduyushchiy kafedroy infektsionnykh bolezney Kiyevskogo gosudarstvennogo meditsinskogo instituta I.R. Drobinskiy.
(MONONUCLEOSIS) (HEPATITIS, INFECTIOUS)

BRABETS, V. [Brabec, V.]; KRATSIK, B.; KRATSIKOVA, T.; MILIGI, Z.; VEYS, M.; MASHTALKA, A.; VOBETSKY, M.; GNATOVITSZ, V.

Radioactive radiation from neutron-deficient hafnium isotopes. Izv.AN SSSR.Ser.fiz. 25 no.10:1266-1268 '61. (MIRA 14:10)

1. Institut yadernykh issledovaniy Chekhoslovatskoy Akademii nauk, Rzhezh, i Fakul'tet tekhnicheskoy i yadernoy fiziki ChVUT, Praga. (Hafnium--Isotopes)

S/048/62/026/012/006/016
B117/B186

AUTHORS: Brabets, V., Kratsik, B., Kratsikova, T., Mashtalka, A., Veys, M., Vobetski, M., and Chernukh, I.

TITLE: Conversion spectrum of Hf^{172}

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 12, 1962, 1486 - 1487

TEXT: The long-lived hafnium isotope Hf^{172} of $T_{1/2}$ = 5 years was obtained in the synchrocyclotron of the OIYaI in Dubna by bombarding a tantulum target with protons for a month. The hafnium fraction was separated from the target using the method described by M. Vobecký and A. Mastalka (Collection Czechoslov. Chem. Commun., 26, 1716 (1961)). The conversion spectrum of the hafnium fraction was measured with a β-spectrometer having an intermediate image and a 2% resolution, 7 months after irradiation had been completed. By this time the short-lived isotope had decayed completely and the Hf^{175}, of $T_{1/2}$ = 70 days to a considerable extent. The source of radiation used for most of the experiments was an equilibrium mixture of

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S/048/62/026/012/006/016
B117/B186

Conversion spectrum of Hf^{172}

Hf^{172} and Lu^{172} on aluminum foil. Measurements carried out in the range up to 1100 kev showed that Hf^{172} has no conversion lines above 120 kev. In the range up to 120 kev, 11 lines were found, corresponding to transitions with energies of 23.6, 42, 44.5, 81.1, 112.7, and 125.5 kev. The γ-transition with an energy of 112.7 kev is already known from the decay of Lu^{172}. The increase in intensity of the conversion line corresponding to this transition took place more slowly than that of the other conversion lines of Lu^{172}. This leads to the conclusion that there exist conversion lines belonging to Hf^{172} at this position in the spectrum, which also correspond to a transition having an energy of about 112.7 kev. As a result of the incomplete separation of the individual lines, the relative intensities of the conversion lines in question could only be determined approximately. For the same reason, it was impossible either to determine the multipole order of the γ-transition unambiguously, or to propose a final decay scheme. This paper was read at the 12th Annual Conference on Nuclear Spectroscopy held in Leningrad from January 26 through February 2, 1962. There is 1 table.

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Conversion spectrum of Hf^{172}

S/048/62/026/012/006/016
B117/B186

ASSOCIATION: Institut yadernykh issledovaniy Chekhoslovatskoy akademii nauk, Rzhezh (Institute of Nuclear Research of the Czechoslovak Academy of Sciences, Rzhezh); Fakul'tet tekhnicheskoy i yadernoy fiziki ChVUT (Division of Technical and Nuclear Physics ChVUT)

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5 (2)

AUTHORS: Mashukov, A. Ya., Lazarev, M. M., Gofman, Yu. M., Anisimov, S. B., Intson, L. P., Turskiy, Yu. I., Mazov, A. V., Samolova, L. Ye. SOV/32-25-8-13/44

TITLE: News in Brief

PERIODICAL: Zavodskaya laboratoriya, 1959, Vol 25, Nr 8, pp 934 - 935 (USSR)

ABSTRACT: A. Ya. Mashukov reports that the Institute prepared test samples containing several rare elements. For the preparation they used a copper-zinc ore (0.0009% In, 0.007% Tl, 0.0012% Ga, and 0.0003% Ge) and not-calcined lead dust (0.004% In, 0.032% Tl, 0.0001% Ga, and 0.0009% Ge). The composition of the test samples was determined by three institutes. M. M. Lazarev (Laboratoriya zavoda) (Plant Laboratory) recommends a nephelometric method for the determination of zinc in the alloy MA-2 by a reaction with potassium ferrocyanide using a photocolorimeter FEK-M. Yu. M. Gofman describes a method for the non-cutting analysis of low alloy steels 15M, 12MKh, 12KhMF for the determination of the carbides of manganese, chromium, molybdenum, and vanadium. The analysis can be made without preparation of a sample by photocolorimetry directly on the surface of the workpiece in-

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vestigated. S. B. Anisimov and L. P. Intson describe a rapid method for the determination of the relation tin : lead in coating at the test of electroplating baths. An electroplated coating is made on a weighed steel leaflet of 10Kh18N9T steel. The coating is detached and after separation of the Sn as metastannic acid, the lead is titrated with Trilon B. Yu. I. Turskiy, A. V. Mazov, L. Ye. Samolova developed a colorimetric method for determination of the resin contents of waste waters in gas plants, which is based on the extraction of the resins with chloroform from the alkaline liquid (to form water-soluble phenolates). The chloroform extract is subjected to colorimetry on a colorimeter FEK-M.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy gornometallurgicheskiy institut tsvetnoy metallurgii (All-Union Scientific Miningmetallurgical Research Institute of Non-ferrous Metals). Laboratoriya metallov Sverdlovenergo (Metal Laboratory of the Sverdlovenergo). Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i polucheniyu iskusstvennogo shidkogo topliva i gaza (All-Union Scientific Research Institute for the Processing of Petroleum and Production of Synthetic Liquid Fuels and Gases)

SAYUN, M.G.; YURASOVA, G.M.; IVANOVA, R.G.; MASHUKOV, A.Ya.

Xylenol orange in the complexonometric determination of lead in lead concentrates. Zav.lab. 27 no.8:961-963 '61. (MIRA 14:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy gornometallurgicheskiy institut tsvetnykh metallov.
(Lead--Analysis)

PLOTNIKOVA, O.M.; LYSENKO, V.I.; MASHUKOV, A.Ya.

Using anion exchangers without the use of a tower in determining cadmium, lead, and zinc in ferrous and cuprous materials. Sbor. trud. VNIITSVETMET no.9:127-131 '55.

(MIRA 18:11)

TYAZHELOV, Vadim Innokent'yevich; SAVEL'YEV, A.G., retsenzent; MAUMOV, M.K., retsenzent; LI, N.V., retsenzent; MASHUKOV, I.F., retsenzent; MYAKON'KIY, A.I., gornyy insh., retsenzent; KUDRYASHOV, V.A., dotsent, retsenzent; PETRENKO, N.P., red.; SOROKIN, T.I. tekhn.red.

[Working a deposit by open-pit mining in the wintertime] Razrabotka mestorozhdenii otkrytym sposobom v zimnii period. Irkutsk, Irkutskoe knizhnoe izd-vo, 1958. 127 p. (MIRA 14:5)

1. Gornorudnyy kombinat Irkutskogo sovnarkhoza (for Savel'yev, Maumov, Li, Mashukov, Myakon'kikh, Kudryashov)
(Strip mining--Cold weather conditions)

KOKURICHEV, P.I., prof.; MIKHAYLOV, N.P., veterinarnyy vrach; KARPOV, V.P.; MOSKALEVA, Ye.G., veterinarnyy tekhnik; VOLKOVA, A.S., veterinarnyy tekhnik; MASHUKOV, M.I.

Selenium preparations in the prophylaxis of diseases in lambs and young pigs. Veterinariia 41 no.8:65-67 Ag '64. (MIRA 18:4)

1. Leningradskiy veterinarnyy institut (for Kokurichev, Mikhaylov). 2. Glavnyy veterinarnyy vrach sovkhoza "Leninskiy Irkutskoy oblasti (for Moskaleva, Volkova). 4. Glavnyy zootekhnik sovkhoza "Leninskiy" Irkutskoy oblasti (for Mashukov).

MASHUKOV, P.A.

Eccentrical clamp for joining boards in laying floors. Suggested by P.A.Mashukov. Rats.i izobr.predl.v stroi. no.8: 105-106 '58. (MIRA 13:3)

1. Zaveduyushchiy mekhanicheskimi masterskimi 8-go stroitel'nogo uchastka tresta Sredazgidrostroy. Po materialam Ministerstva transportnogo stroitel'stva SSSR.
(Floors)

MASHUKOV, P. M.

"Prognosis of Hydrological Magnitudes of Questionable Probability," Meteorology and Hydrology, Vol. 2, 1949.